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**DRAFT**

**SURFACE SOIL ASSESSMENT  
Hecla Mining Company - Apex Unit  
St. George, Utah**

**June 7, 1995**

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## INORGANIC ANALYSIS REPORT

AMERICAN Client: Kleinfelder  
WEST Date Sampled: May 23, 1995  
ANALYTICAL Lab Sample ID.: 22631-81  
LABORATORIES Field Sample ID.: HM052495-31/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

### Analytical Results

		<u>Method</u> <u>Used:</u>	<u>Detection</u> <u>Limit:</u> mg/kg	<u>Amount</u> <u>Detected:</u> mg/kg
TOTAL METALS				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	660 *
	Barium	6010	0.5	39
	Cadmium	6010	0.2	7.5
	Chromium	6010	0.5	7.8
	Cobalt	6010	0.5	11
	Copper	6010	0.5	180
	Lead	6010	3.0	84
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	12
	Selenium	7740	0.1	0.2
	Silver	6010	0.5	<0.5
	Zinc	6010	0.5	690

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## INORGANIC ANALYSIS REPORT

AMERICAN Client: Kleinfelder  
WEST Date Sampled: May 23, 1995  
ANALYTICAL Lab Sample ID.: 22631-60  
LABORATORIES Field Sample ID.: HM052495-10/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method</u> <u>Used:</u>	<u>Detection</u> <u>Limit:</u> mg/kg	<u>Amount</u> <u>Detected:</u> mg/kg
TOTAL METALS				
463 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	2500 *
	Barium	6010	0.5	60
	Cadmium	6010	0.2	14
	Chromium	6010	0.5	380 *
	Cobalt	6010	0.5	37
	Copper	6010	0.5	87
	Lead	6010	3.0	20
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	54
	Selenium	7740	0.1	0.1
	Silver	6010	0.5	<0.5
	Zinc	6010	0.5	2500

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AMERICAN

WEST Client: Kleinfelder

ANALYTICAL Date Sampled: May 23, 1995

LABORATORIES Lab Sample ID.: 22631-46

Field Sample ID.: HM052395-46/31-6930 60

## INORGANIC ANALYSIS REPORT

Contact: Daniel Horns

Date Received: May 25, 1995

Received By: Elona Hayward

Set Description: Ninety-Seven Solid  
Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit: mg/kg</u>	<u>Amount Detected: mg/kg</u>
463 West 3600 South Salt Lake City, Utah 84115				
TOTAL METALS				
	Arsenic	7060	0.5	65
	Barium	6010	0.5	23
	Cadmium	6010	0.2	7.5
(801) 263-8686	Chromium	6010	0.5	160 ★
Fax (801) 263-8687	Cobalt	6010	0.5	53
	Copper	6010	0.5	26
	Lead	6010	3.0	9.1
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	64
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	<0.5
	Zinc	6010	0.5	4200

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## INORGANIC ANALYSIS REPORT

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-45  
Field Sample ID.: HM052395-45/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
463 West 3600 South Salt Lake City, Utah				
84115	Arsenic	7060	0.5	140 *
	Barium	6010	0.5	33
	Cadmium	6010	0.2	10
(801) 263-8686	Chromium	6010	0.5	190 *
Fax (801) 263-8687	Cobalt	6010	0.5	69
	Copper	6010	0.5	40
	Lead	6010	3.0	9.5
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	86
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	0.5
	Zinc	6010	0.5	6400

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## INORGANIC ANALYSIS REPORT

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-69  
Field Sample ID.: HM052495-19/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115		TOTAL METALS		
		Arsenic	7060	0.5 890 *
		Barium	6010	0.5 40
		Cadmium	6010	0.2 50 *
(801) 263-8686		Chromium	6010	0.5 5.9
Fax (801) 263-8687		Cobalt	6010	0.5 6.4
		Copper	6010	0.5 640
		Lead	6010	3.0 20
		Mercury	7471	0.1 <0.1
		Nickel	6010	0.5 11
		Selenium	7740	0.1 <0.1
		Silver	6010	0.5 <0.5
		Zinc	6010	0.5 6300

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WEST  
ANALYTICAL  
LABORATORIES

Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-37  
Field Sample ID.: HM052395-37/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

## INORGANIC ANALYSIS REPORT

### Analytical Results

63 West 3600 South  
Salt Lake City, Utah

84115

(801) 263-8686  
Fax (801) 263-8687

#### TOTAL METALS

	<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
Arsenic	7060	0.5	61
Barium	6010	0.5	140
Cadmium	6010	0.2	1.5
Chromium	6010	0.5	16
Cobalt	6010	0.5	12
Copper	6010	0.5	130
Lead	6010	3.0	120 *
Mercury	7471	0.1	<0.1
Nickel	6010	0.5	18
Selenium	7740	0.1	0.2
Silver	6010	0.5	<0.5
Zinc	6010	0.5	270

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AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES

## INORGANIC ANALYSIS REPORT

Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-33  
Field Sample ID.: HM052395-33/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
163 West 3600 South Salt Lake City, Utah				
84115	Arsenic	7060	0.5	2500 *
	Barium	6010	0.5	390
	Cadmium	6010	0.2	47 *
(801) 263-8686	Chromium	6010	0.5	15
Fax (801) 263-8687	Cobalt	6010	0.5	210
	Copper	6010	0.5	8200
	Lead	6010	3.0	6400 *
	Mercury	7471	0.1	0.2
	Nickel	6010	0.5	110
	Selenium	7740	0.1	7
	Silver	6010	0.5	21
	Zinc	6010	0.5	7200

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AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES

## INORGANIC ANALYSIS REPORT

Client: Kleinfelder

Date Sampled: May 23, 1995

Lab Sample ID.: 22631-32

Field Sample ID.: HM052395-32/31-6930 60

Contact: Daniel Horns

Date Received: May 25, 1995

Received By: Elona Hayward

Set Description: Ninety-Seven Solid  
Samples

### Analytical Results

		<u>Method</u> <u>Used:</u>	<u>Detection</u> <u>Limit:</u> mg/kg	<u>Amount</u> <u>Detected:</u> mg/kg
463 West 3600 South Salt Lake City, Utah				
84115	Arsenic	7060	0.5	3500 ★
	Barium	6010	0.5	550
	Cadmium	6010	0.2	80 ★
(801) 263-8686	Chromium	6010	0.5	21
Fax (801) 263-8687	Cobalt	6010	0.5	220
	Copper	6010	0.5	9700
	Lead	6010	3.0	10000 ★
	Mercury	7471	0.1	0.2
	Nickel	6010	0.5	170
	Selenium	7740	0.1	1.5
	Silver	6010	0.5	28
	Zinc	6010	0.5	16000

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AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES

## INORGANIC ANALYSIS REPORT

Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-31  
Field Sample ID.: HM052395-31/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
TOTAL METALS				
33 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	1400 *
	Barium	6010	0.5	210
	Cadmium	6010	0.2	15
	Chromium	6010	0.5	13
	Cobalt	6010	0.5	190
	Copper	6010	0.5	2200
	Lead	6010	3.0	2500 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	69
	Selenium	7740	0.1	1.9
	Silver	6010	0.5	8.8
	Zinc	6010	0.5	2000

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## INORGANIC ANALYSIS REPORT

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-30  
Field Sample ID.: HM052395-30/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

### Analytical Results

		<u>Method</u> <u>Used:</u>	<u>Detection</u> <u>Limit:</u> mg/kg	<u>Amount</u> <u>Detected:</u> mg/kg
53 West 3600 South Salt Lake City, Utah 84115		TOTAL METALS		
(801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	110 *
	Barium	6010	0.5	44
	Cadmium	6010	0.2	7.8
	Chromium	6010	0.5	25
	Cobalt	6010	0.5	1100
	Copper	6010	0.5	160
	Lead	6010	3.0	170 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	110
	Selenium	7740	0.1	0.3
	Silver	6010	0.5	3.9
	Zinc	6010	0.5	300

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## INORGANIC ANALYSIS REPORT

AMERICAN Client: Kleinfelder  
WEST Date Sampled: May 23, 1995  
ANALYTICAL Lab Sample ID.: 22631-29  
LABORATORIES Field Sample ID.: HM052395-29/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method</u> <u>Used:</u>	<u>Detection</u> <u>Limit:</u> mg/kg	<u>Amount</u> <u>Detected:</u> mg/kg
TOTAL METALS				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	200 *
	Barium	6010	0.5	110
	Cadmium	6010	0.2	19
	Chromium	6010	0.5	21
	Cobalt	6010	0.5	900
	Copper	6010	0.5	430
	Lead	6010	3.0	370 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	79
	Selenium	7740	0.1	0.2
	Silver	6010	0.5	4.7
	Zinc	6010	0.5	410

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## INORGANIC ANALYSIS REPORT

AMERICAN Client: Kleinfelder  
WEST Date Sampled: May 23, 1995  
ANALYTICAL Lab Sample ID.: 22631-27  
LABORATORIES Field Sample ID.: HM052395-27/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
TOTAL METALS				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	180 *
	Barium	6010	0.5	94
	Cadmium	6010	0.2	17
	Chromium	6010	0.5	17
	Cobalt	6010	0.5	290
	Copper	6010	0.5	150
	Lead	6010	3.0	250 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	36
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	1.8
	Zinc	6010	0.5	200

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-24  
Field Sample ID.: HM052395-24/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit: mg/kg</u>	<u>Amount Detected: mg/kg</u>
<b>TOTAL METALS</b>				
463 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	2700 *
	Barium	6010	0.5	230
	Cadmium	6010	0.2	43 *
	Chromium	6010	0.5	15
	Cobalt	6010	0.5	180
	Copper	6010	0.5	8600 *
	Lead	6010	3.0	9900
	Mercury	7471	0.1	0.2
	Nickel	6010	0.5	100
	Selenium	7740	0.1	2.8
	Silver	6010	0.5	25
	Zinc	6010	0.5	8900

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-23  
Field Sample ID.: HM052395-23/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
TOTAL METALS				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	80
	Barium	6010	0.5	89
	Cadmium	6010	0.2	4
	Chromium	6010	0.5	11
	Cobalt	6010	0.5	100
	Copper	6010	0.5	87
	Lead	6010	3.0	110 ★
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	20
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	1.2
	Zinc	6010	0.5	97

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-22  
Field Sample ID.: HM052395-22/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
TOTAL METALS				
3 West 3600 South alt Lake City, Utah 84115  (801) 263-8686 fax (801) 263-8687	Arsenic	7060	0.5	7000 *
	Barium	6010	0.5	300
	Cadmium	6010	0.2	110 *
	Chromium	6010	0.5	30
	Cobalt	6010	0.5	690
	Copper	6010	0.5	12000
	Lead	6010	3.0	20000 *
	Mercury	7471	0.1	0.6
	Nickel	6010	0.5	220
	Selenium	7740	0.1	6.4
	Silver	6010	0.5	40
	Zinc	6010	0.5	11000

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-21  
Field Sample ID.: HM052395-21/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
TOTAL METALS				
463 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	71
	Barium	6010	0.5	91
	Cadmium	6010	0.2	3.6
	Chromium	6010	0.5	11
	Cobalt	6010	0.5	300
	Copper	6010	0.5	91
	Lead	6010	3.0	160 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	17
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	0.8
	Zinc	6010	0.5	120

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-20  
Field Sample ID.: HM052395-20/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method</u> <u>Used:</u>	<u>Detection</u> <u>Limit:</u> mg/kg	<u>Amount</u> <u>Detected:</u> mg/kg
TOTAL METALS				
463 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	5000 *
	Barium	6010	0.5	620
	Cadmium	6010	0.2	640 *
	Chromium	6010	0.5	21
	Cobalt	6010	0.5	420
	Copper	6010	0.5	28000
	Lead	6010	3.0	13000 *
	Mercury	7471	0.1	2.3
	Nickel	6010	0.5	260
	Selenium	7740	0.1	5.3
	Silver	6010	0.5	36
	Zinc	6010	0.5	16000

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-19  
Field Sample ID.: HM052395-19/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg	
TOTAL METALS					
463 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	3600	★
	Barium	6010	0.5	270	
	Cadmium	6010	0.2	46	★
	Chromium	6010	0.5	41	
	Cobalt	6010	0.5	1500	
	Copper	6010	0.5	8700	
	Lead	6010	3.0	8900	★
	Mercury	7471	0.1	1.6	
	Nickel	6010	0.5	150	
	Selenium	7740	0.1	3.2	
	Silver	6010	0.5	33	
	Zinc	6010	0.5	9100	

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-15  
Field Sample ID.: HM052395-15/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit: mg/kg</u>	<u>Amount Detected: mg/kg</u>
TOTAL METALS				
3 West 3600 South alt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	930 ★
	Barium	6010	0.5	250
	Cadmium	6010	0.2	30 ★
	Chromium	6010	0.5	15
	Cobalt	6010	0.5	250
	Copper	6010	0.5	2700
	Lead	6010	3.0	2300 ★
	Mercury	7471	0.1	0.4
	Nickel	6010	0.5	88
	Selenium	7740	0.1	2
	Silver	6010	0.5	10
	Zinc	6010	0.5	4400

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-14  
Field Sample ID.: HM052395-14/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
TOTAL METALS				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	1200 *
	Barium	6010	0.5	310
	Cadmium	6010	0.2	35 *
	Chromium	6010	0.5	16
	Cobalt	6010	0.5	280
	Copper	6010	0.5	4400
	Lead	6010	3.0	2500 *
	Mercury	7471	0.1	0.4
	Nickel	6010	0.5	110
	Selenium	7740	0.1	1.5
	Silver	6010	0.5	9.5
	Zinc	6010	0.5	4900

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-13  
Field Sample ID.: HM052395-13/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
TOTAL METALS				
463 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	510 *
	Barium	6010	0.5	120
	Cadmium	6010	0.2	7.7
	Chromium	6010	0.5	10
	Cobalt	6010	0.5	20
	Copper	6010	0.5	4300
	Lead	6010	3.0	980 *
	Mercury	7471	0.1	0.1
	Nickel	6010	0.5	22
	Selenium	7740	0.1	2
	Silver	6010	0.5	4.5
	Zinc	6010	0.5	1000

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-12  
Field Sample ID.: HM052395-12/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
TOTAL METALS				
463 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	240 *
	Barium	6010	0.5	90
	Cadmium	6010	0.2	8.8
	Chromium	6010	0.5	12
	Cobalt	6010	0.5	57
	Copper	6010	0.5	450
	Lead	6010	3.0	400 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	21
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	3.3
	Zinc	6010	0.5	580

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-11  
Field Sample ID.: HM052395-11/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
TOTAL METALS				
463 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	200 ★
	Barium	6010	0.5	73
	Cadmium	6010	0.2	75 ★
	Chromium	6010	0.5	8.2
	Cobalt	6010	0.5	72
	Copper	6010	0.5	430
	Lead	6010	3.0	410 ★
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	21
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	5.1
	Zinc	6010	0.5	680

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-08  
Field Sample ID.: HM052395-08/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
463 West 3600 South Salt Lake City, Utah 84115		TOTAL METALS		
(801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	410 *
	Barium	6010	0.5	85
	Cadmium	6010	0.2	6
	Chromium	6010	0.5	9.6
	Cobalt	6010	0.5	46
	Copper	6010	0.5	630
	Lead	6010	3.0	480 *
	Mercury	7471	0.1	0.2
	Nickel	6010	0.5	18
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	3.3
	Zinc	6010	0.5	430

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AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES

## INORGANIC ANALYSIS REPORT

Client: Kleinfelder

Date Sampled: May 23, 1995

Lab Sample ID.: 22631-06

Field Sample ID.: HM052395-06/31-6930 60

Contact: Daniel Horns

Date Received: May 25, 1995

Received By: Elona Hayward

Set Description: Ninety-Seven Solid  
Samples

### Analytical Results

		<u>Method</u> <u>Used:</u>	<u>Detection</u> <u>Limit:</u> mg/kg	<u>Amount</u> <u>Detected:</u> mg/kg
TOTAL METALS				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	100 *
	Barium	6010	0.5	210
	Cadmium	6010	0.2	9.5
	Chromium	6010	0.5	11
	Cobalt	6010	0.5	59
	Copper	6010	0.5	340
	Lead	6010	3.0	280 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	22
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	2.7
	Zinc	6010	0.5	660

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-05  
Field Sample ID.: HM052395-05/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115		TOTAL METALS		
(801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	190 *
	Barium	6010	0.5	140
	Cadmium	6010	0.2	42 *
	Chromium	6010	0.5	6.6
	Cobalt	6010	0.5	80
	Copper	6010	0.5	600
	Lead	6010	3.0	380 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	32
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	3.1
	Zinc	6010	0.5	590

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-02  
Field Sample ID.: HM052395-02/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
163 West 3600 South Salt Lake City, Utah				
84115	Arsenic	7060	0.5	230 *
	Barium	6010	0.5	150
	Cadmium	6010	0.2	14
(801) 263-8686	Chromium	6010	0.5	11
Fax (801) 263-8687	Cobalt	6010	0.5	120
	Copper	6010	0.5	570
	Lead	6010	3.0	240 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	55
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	15
	Zinc	6010	0.5	530

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-01  
Field Sample ID.: HM052395-01/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method</u> <u>Used:</u>	<u>Detection</u> <u>Limit:</u> mg/kg	<u>Amount</u> <u>Detected:</u> mg/kg
TOTAL METALS				
33 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	92
	Barium	6010	0.5	66
	Cadmium	6010	0.2	7.2
	Chromium	6010	0.5	9.1
	Cobalt	6010	0.5	260
	Copper	6010	0.5	260
	Lead	6010	3.0	170
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	28
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	0.7
	Zinc	6010	0.5	250

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# of pages &gt; 30

To	Lauren Buehler	From	Linda Jacobson
Co.	U.S. EPA	Co.	
Dept.	LEP	Phone #	(303) 312-6508
Fax #	(303) 312-6953	Fax #	

TO: Lauren Buehler  
From: Linda Jacobson

UTD982590002

Lauren,

The enclosed analytical results from the Kleinfelder Report, Surface Soil Assessment, June 7, 1995 have been "starred" to show those levels which would trigger the TCLP. Please note that, in addition to triggering analyses for arsenic and lead, some sample levels also trigger the TCLP for chromium and cadmium.

It may be a good idea to include a statement "Heda placed excavated soils into Pond 2 which contained arsenic with concentrations that ranged ~~from 100~~ <sup>up to</sup> 7000 ppm, Lead concentrations that ranged ~~from~~ up to 20,000 ppm, Cadmium concentrations that ranged up to 640 ppm, Chromium concentrations ranged up to 380 ppm."

Thanks!

Linda Jacobson

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**DRAFT**

**SURFACE SOIL ASSESSMENT  
Hecla Mining Company - Apex Unit  
St. George, Utah**

**June 7, 1995**

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**INORGANIC ANALYSIS REPORT**

AMERICAN Client: Kleinfelder  
WEST Date Sampled: May 23, 1995  
ANALYTICAL Lab Sample ID.: 22631-81  
LABORATORIES Field Sample ID.: HM052495-31/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

**Analytical Results**

		<b><u>Method Used:</u></b>	<b><u>Detection Limit: mg/kg</u></b>	<b><u>Amount Detected: mg/kg</u></b>
<b>TOTAL METALS</b>				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	660 *
	Barium	6010	0.5	39
	Cadmium	6010	0.2	7.5
	Chromium	6010	0.5	7.8
	Cobalt	6010	0.5	11
	Copper	6010	0.5	180
	Lead	6010	3.0	84
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	12
	Selenium	7740	0.1	0.2
	Silver	6010	0.5	<0.5
	Zinc	6010	0.5	690

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## INORGANIC ANALYSIS REPORT

AMERICAN Client: Kleinfelder  
WEST Date Sampled: May 23, 1995  
ANALYTICAL Lab Sample ID.: 22631-60  
LABORATORIES Field Sample ID.: HM052495-10/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

### Analytical Results

		<u>Method Used:</u>	<u>Detection Limit: mg/kg</u>	<u>Amount Detected: mg/kg</u>
<b>TOTAL METALS</b>				
463 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	2500 *
	Barium	6010	0.5	60
	Cadmium	6010	0.2	14
	Chromium	6010	0.5	380 *
	Cobalt	6010	0.5	37
	Copper	6010	0.5	87
	Lead	6010	3.0	20
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	54
	Selenium	7740	0.1	0.1
	Silver	6010	0.5	<0.5
	Zinc	6010	0.5	2500

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**INORGANIC ANALYSIS REPORT**

AMERICAN WEST  
Client: Kleinfelder  
ANALYTICAL Date Sampled: May 23, 1995  
LABORATORIES Lab Sample ID.: 22631-46  
Field Sample ID.: HM052395-46/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

**Analytical Results**

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115				
<b>TOTAL METALS</b>				
	Arsenic	7060	0.5	65
	Barium	6010	0.5	23
	Cadmium	6010	0.2	7.5
(801) 263-8686	Chromium	6010	0.5	160 *
Fax (801) 263-8687	Cobalt	6010	0.5	53
	Copper	6010	0.5	26
	Lead	6010	3.0	9.1
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	64
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	<0.5
	Zinc	6010	0.5	4200

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INORGANIC ANALYSIS REPORT

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-45  
Field Sample ID.: HM052395-45/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

Analytical Results

		<u>Method Used:</u>	<u>Detection Limit: mg/kg</u>	<u>Amount Detected: mg/kg</u>
463 West 3600 South Salt Lake City, Utah 84115		TOTAL METALS		
(801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	140 *
	Barium	6010	0.5	33
	Cadmium	6010	0.2	10
	Chromium	6010	0.5	190 *
	Cobalt	6010	0.5	69
	Copper	6010	0.5	40
	Lead	6010	3.0	9.5
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	86
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	0.5
	Zinc	6010	0.5	6400

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**INORGANIC ANALYSIS REPORT**

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-69  
Field Sample ID.: HM052495-19/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

**Analytical Results**

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115				
<b>TOTAL METALS</b>				
Arsenic		7060	0.5	890 *
Barium		6010	0.5	40
Cadmium		6010	0.2	50 *
(801) 263-8686 Fax (801) 263-8687		6010	0.5	5.9
Chromium		6010	0.5	6.4
Cobalt		6010	0.5	640
Copper		6010	0.5	20
Lead		6010	3.0	<0.1
Mercury		7471	0.1	11
Nickel		6010	0.5	<0.1
Selenium		7740	0.1	<0.5
Silver		6010	0.5	6300
Zinc		6010	0.5	

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**INORGANIC ANALYSIS REPORT**

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-37  
Field Sample ID.: HM052395-37/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

**Analytical Results**

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
63 West 3600 South Salt Lake City, Utah				
84115	Arsenic	7060	0.5	61
	Barium	6010	0.5	140
	Cadmium	6010	0.2	1.5
(801) 263-8686	Chromium	6010	0.5	16
Fax (801) 263-8687	Cobalt	6010	0.5	12
	Copper	6010	0.5	130
	Lead	6010	3.0	120 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	18
	Selenium	7740	0.1	0.2
	Silver	6010	0.5	<0.5
	Zinc	6010	0.5	270

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AMERICAN  
WEST  
ANALYTICAL  
LABORATORIESClient: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-33  
Field Sample ID.: HM052395-33/31-6930 60Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
SamplesINORGANIC ANALYSIS REPORTAnalytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
163 West 3600 South Salt Lake City, Utah				
84115	TOTAL METALS			
	Arsenic	7060	0.5	2500 *
	Barium	6010	0.5	390
	Cadmium	6010	0.2	47 *
(801) 263-8686	Chromium	6010	0.5	15
Fax (801) 263-8687	Cobalt	6010	0.5	210
	Copper	6010	0.5	8200
	Lead	6010	3.0	6400 *
	Mercury	7471	0.1	0.2
	Nickel	6010	0.5	110
	Selenium	7740	0.1	7
	Silver	6010	0.5	21
	Zinc	6010	0.5	7200

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INORGANIC ANALYSIS REPORT

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-32  
Field Sample ID.: HM052395-32/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115		TOTAL METALS		
(801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	3500 ★
	Barium	6010	0.5	550
	Cadmium	6010	0.2	80 ★
	Chromium	6010	0.5	21
	Cobalt	6010	0.5	220
	Copper	6010	0.5	9700
	Lead	6010	3.0	10000 ★
	Mercury	7471	0.1	0.2
	Nickel	6010	0.5	170
	Selenium	7740	0.1	1.5
	Silver	6010	0.5	28
	Zinc	6010	0.5	16000

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AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-31  
Field Sample ID.: HM052395-31/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

## INORGANIC ANALYSIS REPORT

### Analytical Results

		<u>Method</u> <u>Used:</u>	<u>Detection</u> <u>Limit:</u> mg/kg	<u>Amount</u> <u>Detected:</u> mg/kg
13 West 3600 South Salt Lake City, Utah 84115		TOTAL METALS		
		Arsenic	7060	0.5 1400 *
		Barium	6010	0.5 210
		Cadmium	6010	0.2 15
(801) 263-8686	Chromium	6010	0.5 13	
Fax (801) 263-8687	Cobalt	6010	0.5 190	
		Copper	6010	0.5 2200
		Lead	6010	3.0 2500 *
		Mercury	7471	0.1 <0.1
		Nickel	6010	0.5 69
		Selenium	7740	0.1 1.9
		Silver	6010	0.5 8.8
		Zinc	6010	0.5 2000

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**INORGANIC ANALYSIS REPORT**

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-30  
Field Sample ID.: HM052395-30/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

**Analytical Results**

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
53 West 3600 South Salt Lake City, Utah				
84115	Arsenic	7060	0.5	110 *
	Barium	6010	0.5	44
	Cadmium	6010	0.2	7.8
(801) 263-8686	Chromium	6010	0.5	25
Fax (801) 263-8687	Cobalt	6010	0.5	1100
	Copper	6010	0.5	160
	Lead	6010	3.0	170 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	110
	Selenium	7740	0.1	0.3
	Silver	6010	0.5	3.9
	Zinc	6010	0.5	300

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**INORGANIC ANALYSIS REPORT**

AMERICAN Client: Kleinfelder  
WEST Date Sampled: May 23, 1995  
ANALYTICAL Lab Sample ID.: 22631-29  
LABORATORIES Field Sample ID.: HM052395-29/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

**Analytical Results**

		<b><u>Method Used:</u></b>	<b><u>Detection Limit:</u></b> mg/kg	<b><u>Amount Detected:</u></b> mg/kg
<b>TOTAL METALS</b>				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	200 *
	Barium	6010	0.5	110
	Cadmium	6010	0.2	19
	Chromium	6010	0.5	21
	Cobalt	6010	0.5	900
	Copper	6010	0.5	430
	Lead	6010	3.0	370 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	79
	Selenium	7740	0.1	0.2
	Silver	6010	0.5	4.7
	Zinc	6010	0.5	410

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INORGANIC ANALYSIS REPORT

AMERICAN Client: Kleinfelder  
WEST Date Sampled: May 23, 1995  
ANALYTICAL Lab Sample ID.: 22631-27  
LABORATORIES Field Sample ID.: HM052395-27/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid  
Samples

Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
TOTAL METALS				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	180 *
	Barium	6010	0.5	94
	Cadmium	6010	0.2	17
	Chromium	6010	0.5	17
	Cobalt	6010	0.5	290
	Copper	6010	0.5	150
	Lead	6010	3.0	250 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	36
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	1.8
	Zinc	6010	0.5	200

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**INORGANIC ANALYSIS REPORT**

AMERICAN Client: Kleinfelder  
WEST Date Sampled: May 23, 1995  
ANALYTICAL Lab Sample ID.: 22631-24  
LABORATORIES Field Sample ID.: HM052395-24/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

**Analytical Results**

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115				
<b>TOTAL METALS</b>				
	Arsenic	7060	0.5	2700 *
	Barium	6010	0.5	230
	Cadmium	6010	0.2	43 *
(801) 263-8686	Chromium	6010	0.5	15
Fax (801) 263-8687	Cobalt	6010	0.5	180
	Copper	6010	0.5	8600 *
	Lead	6010	3.0	9900
	Mercury	7471	0.1	0.2
	Nickel	6010	0.5	100
	Selenium	7740	0.1	2.8
	Silver	6010	0.5	25
	Zinc	6010	0.5	8900

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**INORGANIC ANALYSIS REPORT**

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-23  
Field Sample ID.: HM052395-23/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

**Analytical Results**

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
<b>TOTAL METALS</b>				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	80
	Barium	6010	0.5	89
	Cadmium	6010	0.2	4
	Chromium	6010	0.5	11
	Cobalt	6010	0.5	100
	Copper	6010	0.5	87
	Lead	6010	3.0	110 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	20
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	1.2
	Zinc	6010	0.5	97

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**INORGANIC ANALYSIS REPORT**

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-22  
Field Sample ID.: HM052395-22/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

**Analytical Results**

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
3 West 3600 South alt Lake City, Utah 84115				
<b>TOTAL METALS</b>				
	Arsenic	7060	0.5	7000 *
	Barium	6010	0.5	300
	Cadmium	6010	0.2	110 *
(801) 263-8686	Chromium	6010	0.5	30
fax (801) 263-8687	Cobalt	6010	0.5	690
	Copper	6010	0.5	12000
	Lead	6010	3.0	20000 *
	Mercury	7471	0.1	0.6
	Nickel	6010	0.5	220
	Selenium	7740	0.1	6.4
	Silver	6010	0.5	40
	Zinc	6010	0.5	11000

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**INORGANIC ANALYSIS REPORT**

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-21  
Field Sample ID.: HM052395-21/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

**Analytical Results**

463 West 3600 South  
Salt Lake City, Utah  
84115

(801) 263-8686  
Fax (801) 263-8687

**TOTAL METALS**

	Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
Arsenic	7060	0.5	71
Barium	6010	0.5	91
Cadmium	6010	0.2	3.6
Chromium	6010	0.5	11
Cobalt	6010	0.5	300
Copper	6010	0.5	91
Lead	6010	3.0	160
Mercury	7471	0.1	<0.1
Nickel	6010	0.5	17
Selenium	7740	0.1	<0.1
Silver	6010	0.5	0.8
Zinc	6010	0.5	120

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**INORGANIC ANALYSIS REPORT**

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-20  
Field Sample ID.: HM052395-20/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

**Analytical Results**

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115				
TOTAL METALS				
	Arsenic	7060	0.5	5000 *
	Barium	6010	0.5	620
	Cadmium	6010	0.2	640 *
(801) 263-8686	Chromium	6010	0.5	21
Fax (801) 263-8687	Cobalt	6010	0.5	420
	Copper	6010	0.5	28000
	Lead	6010	3.0	13000 *
	Mercury	7471	0.1	2.3
	Nickel	6010	0.5	260
	Selenium	7740	0.1	5.3
	Silver	6010	0.5	36
	Zinc	6010	0.5	16000

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
 Client: Kleinfelder  
 Date Sampled: May 23, 1995  
 Lab Sample ID.: 22631-19  
 Field Sample ID.: HM052395-19/31-6930 60

Contact: Daniel Horns  
 Date Received: May 25, 1995  
 Received By: Elona Hayward  
 Set Description: Ninety-Seven Solid Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115				
<b>TOTAL METALS</b>				
	Arsenic	7060	0.5	3600 *
	Barium	6010	0.5	270
	Cadmium	6010	0.2	46 *
(801) 263-8686	Chromium	6010	0.5	41
Fax (801) 263-8687	Cobalt	6010	0.5	1500
	Copper	6010	0.5	8700
	Lead	6010	3.0	8900 *
	Mercury	7471	0.1	1.6
	Nickel	6010	0.5	150
	Selenium	7740	0.1	3.2
	Silver	6010	0.5	33
	Zinc	6010	0.5	9100

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INORGANIC ANALYSIS REPORT

AMERICAN

WEST

ANALYTICAL

LABORATORIES

Client: Kleinfelder

Date Sampled: May 23, 1995

Lab Sample ID.: 22631-15

Field Sample ID.: HM052395-15/31-6930 60

Contact: Daniel Horns

Date Received: May 25, 1995

Received By: Elona Hayward

Set Description: Ninety-Seven Solid  
SamplesAnalytical Results

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
TOTAL METALS				
3 West 3600 South alt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	930 ★
	Barium	6010	0.5	250
	Cadmium	6010	0.2	30 ★
	Chromium	6010	0.5	15
	Cobalt	6010	0.5	250
	Copper	6010	0.5	2700
	Lead	6010	3.0	2300 ★
	Mercury	7471	0.1	0.4
	Nickel	6010	0.5	88
	Selenium	7740	0.1	2
	Silver	6010	0.5	10
	Zinc	6010	0.5	4400

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INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-14  
Field Sample ID.: HM052395-14/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
TOTAL METALS				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	1200 *
	Barium	6010	0.5	310
	Cadmium	6010	0.2	35 *
	Chromium	6010	0.5	16
	Cobalt	6010	0.5	280
	Copper	6010	0.5	4400
	Lead	6010	3.0	2500 *
	Mercury	7471	0.1	0.4
	Nickel	6010	0.5	110
	Selenium	7740	0.1	1.5
	Silver	6010	0.5	9.5
	Zinc	6010	0.5	4900

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
 Client: Kleinfelder  
 Date Sampled: May 23, 1995  
 Lab Sample ID.: 22631-13  
 Field Sample ID.: HM052395-13/31-6930 60

Contact: Daniel Horns  
 Date Received: May 25, 1995  
 Received By: Elona Hayward  
 Set Description: Ninety-Seven Solid Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115				
<b>TOTAL METALS</b>				
	Arsenic	7060	0.5	510 *
	Barium	6010	0.5	120
	Cadmium	6010	0.2	7.7
(801) 263-8686	Chromium	6010	0.5	10
Fax (801) 263-8687	Cobalt	6010	0.5	20
	Copper	6010	0.5	4300
	Lead	6010	3.0	980 *
	Mercury	7471	0.1	0.1
	Nickel	6010	0.5	22
	Selenium	7740	0.1	2
	Silver	6010	0.5	4.5
	Zinc	6010	0.5	1000

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**INORGANIC ANALYSIS REPORT**

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-12  
Field Sample ID.: HM052395-12/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

**Analytical Results**

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115				
TOTAL METALS				
(801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	240 *
	Barium	6010	0.5	90
	Cadmium	6010	0.2	8.8
	Chromium	6010	0.5	12
	Cobalt	6010	0.5	57
	Copper	6010	0.5	450
	Lead	6010	3.0	400 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	21
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	3.3
	Zinc	6010	0.5	580

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
 Client: Kleinfelder  
 Date Sampled: May 23, 1995  
 Lab Sample ID.: 22631-11  
 Field Sample ID.: HM052395-11/31-6930 60

Contact: Daniel Horns  
 Date Received: May 25, 1995  
 Received By: Elona Hayward  
 Set Description: Ninety-Seven Solid Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115				
<b>TOTAL METALS</b>				
(801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	200 ★
	Barium	6010	0.5	73
	Cadmium	6010	0.2	75 ★
	Chromium	6010	0.5	8.2
	Cobalt	6010	0.5	72
	Copper	6010	0.5	430
	Lead	6010	3.0	410 ★
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	21
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	5.1
	Zinc	6010	0.5	680

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## INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
 Client: Kleinfelder  
 Date Sampled: May 23, 1995  
 Lab Sample ID.: 22631-08  
 Field Sample ID.: HM052395-08/31-6930 60

Contact: Daniel Horns  
 Date Received: May 25, 1995  
 Received By: Elona Hayward  
 Set Description: Ninety-Seven Solid Samples

### Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah				
84115	Arsenic	7060	0.5	410 *
	Barium	6010	0.5	85
	Cadmium	6010	0.2	6
(801) 263-8686	Chromium	6010	0.5	9.6
Fax (801) 263-8687	Cobalt	6010	0.5	46
	Copper	6010	0.5	630
	Lead	6010	3.0	480 *
	Mercury	7471	0.1	0.2
	Nickel	6010	0.5	18
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	3.3
	Zinc	6010	0.5	430

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**INORGANIC ANALYSIS REPORT**

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-06  
Field Sample ID.: HM052395-06/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

**Analytical Results**

		<u>Method Used:</u>	<u>Detection Limit:</u> mg/kg	<u>Amount Detected:</u> mg/kg
TOTAL METALS				
163 West 3600 South Salt Lake City, Utah 84115  (801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	100 *
	Barium	6010	0.5	210
	Cadmium	6010	0.2	9.5
	Chromium	6010	0.5	11
	Cobalt	6010	0.5	59
	Copper	6010	0.5	340
	Lead	6010	3.0	280 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	22
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	2.7
	Zinc	6010	0.5	660

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INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
Client: Kleinfelder  
Date Sampled: May 23, 1995  
Lab Sample ID.: 22631-05  
Field Sample ID.: HM052395-05/31-6930 60

Contact: Daniel Horns  
Date Received: May 25, 1995  
Received By: Elona Hayward  
Set Description: Ninety-Seven Solid Samples

Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
463 West 3600 South Salt Lake City, Utah 84115		TOTAL METALS		
(801) 263-8686 Fax (801) 263-8687	Arsenic	7060	0.5	190 *
	Barium	6010	0.5	140
	Cadmium	6010	0.2	42 *
	Chromium	6010	0.5	6.6
	Cobalt	6010	0.5	80
	Copper	6010	0.5	600
	Lead	6010	3.0	380 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	32
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	3.1
	Zinc	6010	0.5	590

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# INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES  
 Client: Kleinfelder  
 Date Sampled: May 23, 1995  
 Lab Sample ID.: 22631-02  
 Field Sample ID.: HM052395-02/31-6930 60

Contact: Daniel Horns  
 Date Received: May 25, 1995  
 Received By: Elona Hayward  
 Set Description: Ninety-Seven Solid Samples

## Analytical Results

		Method Used:	Detection Limit: mg/kg	Amount Detected: mg/kg
63 West 3600 South Salt Lake City, Utah 84115	TOTAL METALS			
	Arsenic	7060	0.5	230 *
	Barium	6010	0.5	150
	Cadmium	6010	0.2	14
(801) 263-8686	Chromium	6010	0.5	11
Fax (801) 263-8687	Cobalt	6010	0.5	120
	Copper	6010	0.5	570
	Lead	6010	3.0	240 *
	Mercury	7471	0.1	<0.1
	Nickel	6010	0.5	55
	Selenium	7740	0.1	<0.1
	Silver	6010	0.5	15
	Zinc	6010	0.5	530

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